

Work Order ID 161686

Tuesday, May 23, 2017 9:30:12 AM

161686

Page 1

Item ID: D3290-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Frame
 Start Date: 6/7/2017 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 6/14/2017 Req'd Qty: 4.00 ***4*** Customer:

Reference: **DAS**
21
 Approvals: Process Plan: **9-29** Date: **MAY 23 2017** Tooling: Date:
 QC: Date: SPC (Y/N): Date:
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3290 •	Rev C							DAS 14 9-29	
100	FLOW WATER JET	0.00							
100									
Waterjet	Memo	0.56							
FLOW CNC Waterjet	1-Cut as per Dwg D3290 (use prog. for D3290-1)								
	Dwg Rev: <u>5</u>								
	• Prog Rev: <u>5</u>								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.04							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.08							
Quality Control									

(4) SC 17/06/16

(4) SC 17/06/16

4 SC 16 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
☐ Environment	☐	☐ No Re-verification	☐	☐ Pressure/Forced	☐	☐ Temperature/Cure	☐
☐ Design	☐	☐ Operator	☐	☐ Bending	☐	☐ Set-up	☐
☐ Doc/Data	☐	☐ Offset/Setup	☐	☐ Centre Not Concentric	☐	☐ BOM/Route	☐
☐ Equip/Tooling	☐	☐ Supplier	☐	☐ Cracks	☐	☐ Broken/Damage/Defect	☐
☐ Handling/Pre	☐	☐ Training	☐	☐ Crimp/Kink/Ripple/Wave	☐	☐ Inspection Incomplete/Unqualified	☐
☐ Material	☐	☐ Use for Testing	☐	☐ Cuffs	☐	☐ Contamination	☐
☐ Internal Transport	☐	☐ Poor Information	☐	☐ Crushing	☐	☐ Countersink	☐
☐ Tribal Knowledge	☐	☐ Rushing	☐	☐ Heat Treat	☐	☐ Cut Too Short	☐
☐ LOA	☐	☐ Product Improvement	☐	☐ Wave/Twist in Tube	☐	☐ Instructions Incomplete/Unclear	☐
☐ Substation	☐	☐ Process Improvement	☐	☐ Marks/Chatter	☐	☐ Drill Holes	☐
☐ Past Expiry Date	☐	☐ Manufacturing Process	☐	OTHER : _____			
☐ Misidentified	☐	☐ Past Due	☐				

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Item ID: D3290-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Frame
Start Date: 6/7/2017 Start Qty: 4.00 ***4*** Cust Item ID:
Required Date: 6/14/2017 Req'd Qty: 4.00 ***4*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00							
130						<u>X4</u>	<u>Ø</u>		<u>201206/22</u>
HandFinish	Memo	0.43							<u>BEB</u>
Hand Finishing									
135	QC7-Inspect Chemical Conversion Coat	0.00							
135									
QC	Memo	0.00							<u>4 Ø 17.06.22</u>
Quality Control									<u>Ø 34 0.89</u>
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
140									
Powdercoat	Memo	0.21							<u>4 Ø 17.06.22</u>
Powder Coating	START TIME: <u>11:25</u>								<u>Ø 34 0.89</u>
	OVEN TEMPERATURE: <u>300°</u>								
	FINISH TIME: <u>11:55</u>								

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
☐ OTHER : _____									

Work Order ID 161686

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Item ID: D3290-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Frame

Start Date: 6/7/2017 Start Qty: 4.00

4

Cust Item ID:

Required Date: 6/14/2017 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC3- Inspect Part Finish	0.00							DAS 38 9-89
150						4			JUN 26 2017
QC	Memo	0.04							
Quality Control									
180	Identify as per dwg & Stock Location: <u>SH432</u>	0.00							DAS 6 9-89
180						4		JUN 26 2017	
Packaging	Memo	0.04							
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
190									17/6/27 98
QC	Memo	0.40							
Quality Control									

DAS
21
9-89

JUN 27 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____							
Misidentified ☐	☐ Past Due								

Picklist Print

Tuesday, May 23, 2017 9:30:10 AM

Page 1

Work Order ID: 161686

161686

Parent Item: D3290-1

D3290-1

Parent Item Name: Frame

Start Date: 6/7/2017

Required Date: 6/14/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A 12.06.13 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.063		Purchased	No			100	sf	291.7760	3.75	15.78947	DAS 14 9-89		
**													
SC 17/06/16													

M6061T6S 063

6061-T6 .063 Sheet

Location

Loc Qty

Loc Code

MAT021

291.776

M134604

52

M134830

2.456

M136251

26.2

M136790

9.9

M136896

2.2

M137041

11.72

M137175

27.3

M137513

160

M13599

16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD		Work Order: 161686
Description: Window Frame		Part Number: D3290-1
Inspection Dwg: D3290	Rev: C	Page 1 of 1

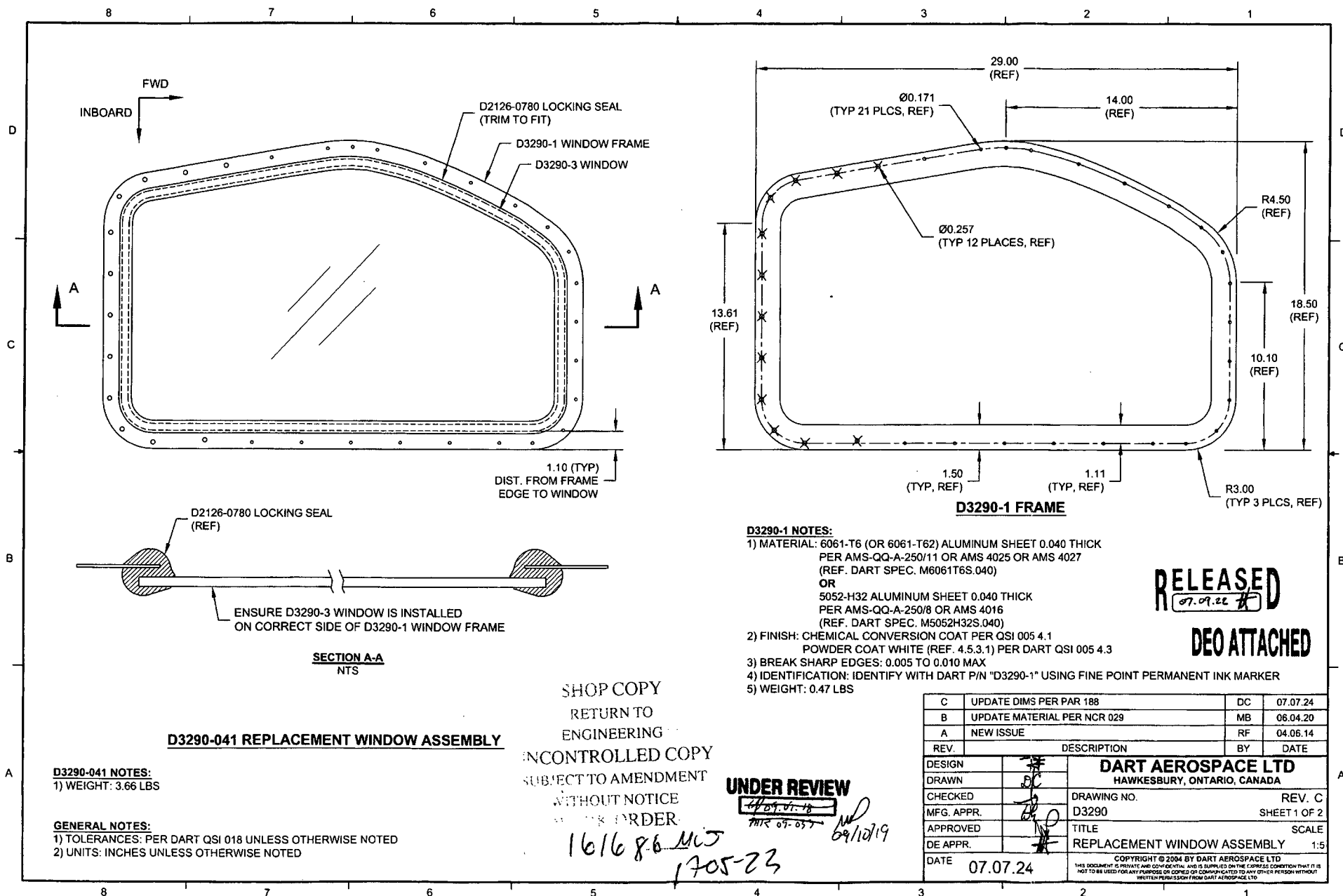
FIRST ARTICLE INSPECTION CHECKLIST

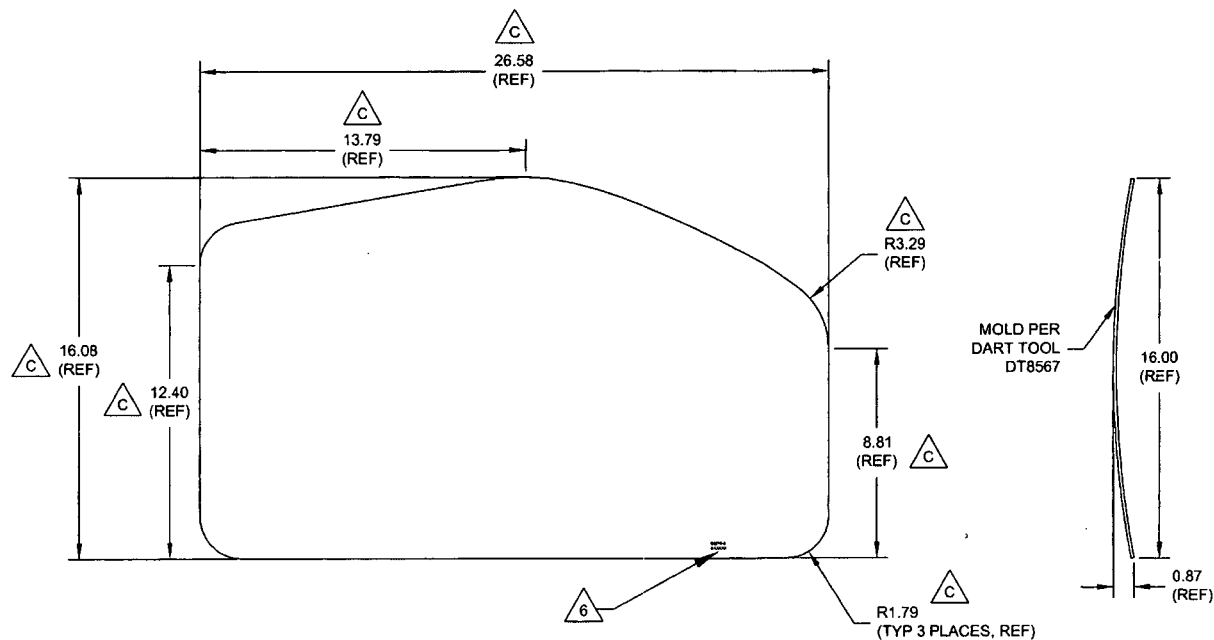
☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
29.00	+/-0.030	29.03	1		VDC-02	
14.00	+/-0.030	14.03	1		Tape	
Ø0.171	+0.005/-0.001	0.175	1			
1.50	+/-0.030	1.59	1			
1.11	+/-0.030	1.13	1			
10.10	+/-0.030	10.12	1			
18.50	+/-0.030	18.59	1			
0.063	+/-0.010	0.063	1			
R3.00	+/-0.030	R3.00	1			
R4.50	+/-0.030	R4.50	1			
Ø0.257	+0.006/-0.001	0.262	1			
13.61	+/-0.030	13.69	1			

Measured by: SC 14	Audited by: DAS 38	Prototype Approval:	N/A
Date: 17/06/17	Date: JUN 16 2017	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.09.19	New Issue P/O D3290-041	KJ/JLM	
B	07.07.18	13.61 dimension removed	KJ/JLM	
C	07.09.28	Dimensions update per Dwg Rev C	KJ/EC/DD	
D	09.11.04	Dimension 0.063 was 0.040	KJ	





D3290-3 WINDOW

- D3290-3 NOTES:**
- 1) MATERIAL: POLYCAST II CLEAR ACRYLIC SHEET PER MIL-P-5425 OR PLEXIGLAS G CLEAR CAST ACRYLIC SHEET PER LP-391 TYPE 1 GRADE C, 0.125 THICK (REF. DART SPEC. M-ACRYLIC-S.125)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) REMOVE SHARP EDGES
 - 6) IDENTIFICATION: ENGRAVE P/N "D3290-3" AND B/N ON LOWER EDGE USE 0.125" HIGH LETTERS TO MAXIMUM DEPTH OF 0.005"
 - 7) WEIGHT: 1.87 +/- 0.42 LBS
 - 8) MOLD PER DART TOOL DT8567

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3290	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		REPLACEMENT WINDOW ASSEMBLY	1:5
DATE	07.07.24	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

UNDER REVIEW

**DEO ATTACHED
RELEASED**

DRAWING NO. D3290	TITLE REPLACEMENT WINDOW ASSEMBLY	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3290-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>qp</i>	CHECKED <i>ls</i>	MFG. APPR. <i>FE</i>	APPROVED <i>MP</i>		DE APPR. <i>MP</i>		
DATE 09.09.18	DATE 09.09.18	DATE 09.09.18	DATE 09/09/21		DATE 09/09/21		

PURPOSE:

CHANGE MATERIAL THICKNESS OF D3290-1 FRAME TO 0.063 FROM 0.040. REF PAR 09-033.

CHANGE:

MATERIAL CALL-OUT OF D3290-1 FRAME ON SHEET 1 IS AMENDED AS FOLLOWS:

D3290-1 NOTES

- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET ~~0.040 THICK~~ 0.063 THICK (REPLACE)
 PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027
~~(REF. DART SPEC. M6061T6S.040)~~ REF. DART SPEC. M6061T6S.063 (REPLACE)
 OR
 5052-H32 ALUMINUM SHEET ~~0.040 THICK~~ 0.063 THICK (REPLACE)
 PER AMS-QQ-A-250/8 OR AMS 4016
~~(REF. DART SPEC. M5052H32S.040)~~ REF. DART SPEC. M5052H32S.063 (REPLACE)

RELEASED
 2009 -10- 09
MP

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